January 5 - 11, 2007

Terra successfully performed MODIS Roll #67 (-1.636 degree slew) on January 8.

Terra Automation Working Group met this week and continues progress on the new system.

Since launch, the temperature of ASTER's Short Wave infrared (SWIR) detectors has been slowly rising from nominal operating temperature of 77K, to the current value of 81K. Several times in the last 7 years, the set point of the Capillary Pumped Heat Transport System (CPHTS) was changed and the SWIR temperature decreased. In 2006 the rise appears exponential rather than linear. As the temperature rises, the science detector dark current (DC) offset increases, resulting in saturation of an equal amount at the top of the dynamic range. Without intervention the temperature is projected to reach 83K by May 2007.

There are several options available to us to mitigate the temperature increase. This issue was discussed at length at our last joint Japan/US Science Team meeting. It is the recommendation of the ASTER Science Team to:

1) As soon as feasible, change the set point of the CPHTS (this can only be done one more time.)

2) Before the SWIR detector temperature reaches 83K, increase the stroke of the Sterling Cycle cooler from 6mm to 7mm.

Both of these actions will require study of the possible impacts on the Terra spacecraft, and for the other 4 instruments on Terra. The FOT will do the necessary studies to examine any issues, and report back to Terra and ASTER.